CLAIMS

1. In a wireless communication system supporting broadcast transmissions, the
2   system having a broadcast source node and at least one termination node,
    at least one router coupled between the source node and the at least one
4   termination node, a method for setting up transmission paths comprising:
        determining a transmission range for a broadcast transmission within the
6   system;
        building a multicast tree from a first termination node to the broadcast
8   source node, the multicast tree including the at least one router;
            and
10 transmitting a broadcast message through the multicast tree over the
        transmission range.

2. The method as in claim 1, wherein building a multicast tree comprises:
2   successively registering with neighboring multicast routers between the
            first termination node and the broadcast source node.

3. The method as in claim 1, wherein transmitting the broadcast message
2   further comprises:
        receiving the broadcast message at the broadcast source; and
4   in response to receiving the broadcast message, the broadcast source
            encapsulating the broadcast message in an Internet Protocol
6   packet to form a multicast Internet Protocol packet.

4. The method as in claim 3, wherein the multicast Internet Protocol packet
2   identifies the broadcast source as a source and identifies a multicast Internet
    Protocol address as a destination.

5. The method of claim 4, wherein transmitting the broadcast message
2   further comprises:

receiving the multicast Internet Protocol packet at the first termination

4 point;

in response to receiving the multicast Internet Protocol packet the first

6 termination point compresses the multicast Internet Protocol

packet to form a compressed packet; and

8 encapsulating the compressed packet in an Internet Protocol packet to

from a compressed packet, the compressed packet identifying the

10 first termination point as a source.

6. A method for processing Internet Protocol packets in a wireless transmission

2 system supporting broadcast transmissions, the method comprising:

receiving an Internet Protocol packet, the Internet Protocol packet

4 encapsulating a broadcast message;

extracting the broadcast message;

6 encapsulating the extracted broadcast message for transmission.

7. The method as in claim 6, further comprising:

2 decompressing the broadcast message.

8. The method as in claim 6, wherein encapsulating the extracted broadcast

2 message comprises:

identifying multicast Internet Protocol destination of the broadcast

4 message.

9. An infrastructure element for generating Internet Protocol packets in a

2 wireless transmission system supporting broadcast transmissions, the

infrastructure element comprising:

4 means for determining a broadcast transmission range;

means for generating an Internet Protocol packet, the Internet Protocol

6 packet having a multicast address; and

means for transmitting the Internet Protocol packet.

10. A wireless communication system for processing broadcast transmissions in

2 a wireless communication system, the system comprising:

a packet service data node adapted to receive a broadcast message;

4   and

a packet control function node adapted to receive the broadcast

6   message, the broadcast message encapsulated in an Internet

    Protocol packet addressed to a multicast address.

11. The system as in claim 10, wherein the packet service data node

2 compressed the broadcast message and frames the compressed broadcast

 message.

12. The system as in claim 10, wherein the packet control function node

2 processes the broadcast message and forwards the broadcast message to

 an intended recipient.

13. An infrastructure element for processing broadcast transmissions in a

2 wireless communication system, the infrastructure element comprising:

  means for receiving a broadcast message, the broadcast message

4   encapsulated in an Internet Protocol packet, the Internet Protocol

    packet addressed to a multicast address;

6 means for processing the Internet Protocol packet; and

  means for addressing the broadcast message to an intended recipient.

14. The infrastructure element as in claim 13, wherein the infrastructure

2 element is a packet control function node.

15. The infrastructure element as in claim 13, wherein the multicast address

2 corresponds to intended recipients of the broadcast message.

16. The infrastructure element as in claim 13, wherein the infrastructure

2 element further comprises:

  means for transmitting the broadcast message to an intended recipient.

17. An infrastructure element for processing broadcast transmissions in a

2 wireless communication system, the infrastructure element comprising:

means for receiving a broadcast message, the broadcast message

4   encapsulated in an Internet Protocol packet, the Internet Protocol

packet addressed to a multicast address;

6   means for processing the Internet Protocol packet; and

means for preparing a second Internet Protocol packet encapsulating the

8   broadcast message and addressed to a multicast address.

18. The infrastructure element as in claim 17, wherein the infrastructure

2   element is a packet data service node.

19. The infrastructure element as in claim 17, wherein the multicast address

2   corresponds to intended recipients of the broadcast message.

20. A communication path for processing broadcast messages in a wireless

2   communication system, comprising:

a first multicast tree portion, wherein the broadcast message is

4   transmitted addressed to a multicast Internet Protocol address;

a second multicast tree portion, wherein the broadcast message is

6   transmitted addressed to a multicast Internet Protocol address;

and

8   a third portion, wherein the broadcast message is transmitted addressed

to at least one unicast address.

21. The communication path as in claim 20, wherein the first multicast tree

2   portion is formed between a content source and a packet data service node,

the second multicast tree portion is formed between the packet data service

4   node and a packet control function node, and the third portion is formed from

the packet control function node to the base station.